



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/049,902	07/08/2002	Takeyoshi Shibasaki	218781U/SOPCT	2423

22850 7590 01/25/2005

OBLON, SPIVAK, MCCLELLAND, MAIER & NEUSTADT, P.C.  
1940 DUKE STREET  
ALEXANDRIA, VA 22314

EXAMINER
----------

NGUYEN, NGOC YEN M

ART UNIT	PAPER NUMBER
----------	--------------

1754

DATE MAILED: 01/25/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/049,902

Applicant(s)

SHIBASAKI ET AL.

Examiner

Ngoc-Yen M. Nguyen

Art Unit

1754

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 08 July 2002 and 04 January 2005.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-15 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

**DETAILED ACTION**

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Inokuchi et al (6,248,495) in view of Suzuki et al (6,403,271).

Inokuchi '495 discloses that when amorphous spherical silica microparticulates having a specific surface area of 5 to 50 m<sup>2</sup>/g and a particle size distribution of 5 to 1,000 nm are added to toner particles as the inorganic microparticulates, there is obtained an electrostatic image developer which is improved fluidity, anti-caking and cleaning characteristics and has stable and uniform charging characteristics (note column 1, lines 49-55). Preferably, the specific surface area is from 10-30 m<sup>2</sup>/g and the particle size distribution is from 20 nm to 300 nm (= 0.02 – 0.3 µm). These ranges overlap the claimed ranges. With respect to the encompassing and overlapping ranges previously discussed, the subject matter as a whole would have been obvious to one of ordinary skill in the art at the time of invention to select the portion of the prior art's range which is within the range of the applicants' claims because it has been held *prima facie* case of obviousness to select a value in a known range by optimization for the results. *In re Boesch*, 205 USPQ 215. Additionally, the subject matter as a whole

Art Unit: 1754

would have been obvious to one of ordinary skill in the art at the time invention was made to have selected the overlapping portion of the range disclosed by the reference because overlapping ranges have been held to be a prima facie case of obviousness. *In re Malagari*, 182 USPQ.

The spherical silica microparticulates are prepared by combustion pyrolysis in flame of an alkoxysilane and/or a partial hydrolytic condensate thereof (note column 2, lines 29-31).

The electrostatic image developer can be used to develop electrostatic images on a photoconductor or electrostatic recording element. Using a developing method such as magnetic brush, cascade or touch-down method, the electrostatic image developer is applied to the electrostatic latent image, allowing the toner to adhere thereto (note column 4, lines 17-31). This fairly suggests a layer (at least a discontinuous one) as required in the instant claims 5, 10.

For claims 2-3, 9, 11, the limitations "of an epoxy molding", "for anti-blocking of a plastic film", etc. are considered as intended use and given little weight. Furthermore, since the product of Inokuchi '495 has similar properties as the claimed product, the product of Inokuchi '495 would be as suitable for being used in those applications as the claimed product.

For claims 7-8, Inokuchi '495 discloses that for minimizing the variation of the charge quantity with temperature and humidity, the spherical silica microparticulates are preferably hydrophobic spherical silica having  $R^1_3SiO_{1/2}$  units introduced to their surface (note column 3, lines 27-44). The process limitation in claim 8 is noted. However, when the examiner has found a

Art Unit: 1754

substantially similar product as in the applied prior art, the burden of proof is shifted to applicant to establish that their product is patentably distinct and not the examiner to show the same process of making. *In re Brown*, 173 USPQ 685 and *In re Fessmann*, 180 USPQ 324.

For the product the difference is Inokuchi '495 does not specifically disclose a dispersion coefficient of less than 40%.

Suzuki '271 discloses a toner for developing an electrostatic latent image comprising a monodisperse spherical inorganic oxide having a volume average particle diameter of about from 80 to 300 nm (note claim 1). Suzuki '271 teaches that because the monodisperse spherical silica is monodisperse and spherical, they are uniformly dispersed on the surface of the colored particles to obtain a stable spacer effect (note column 7, lines 46-57).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to optimize the process condition in the process of Inokuchi '495 in order to obtain a monodisperse silica product because monodisperse silica is preferred, as suggested by Suzuki '271, when silica is used in an electrostatic image developer. In the event that the process condition could not be optimized to obtain the desired monodisperse silica product, it would have been obvious to one skilled in the art to subject the product of Inokuchi '495 to a classifying step in order to obtain a monodisperse silica.

For claim 6, Inokuchi '495 does not specifically disclose the absolute value of triboelectrostatic charge to the specific surface area, however, as disclosed in the instant specification, page 17, middle paragraph, "the triboelectrostatic

Art Unit: 1754

charge varies a lot so that it is hard to understand an exact electrification state.

The dispersion property of the powder has big influences on the electrification...”

Thus, since the product of the combined teaching of Inokuchi '495 and Suzuki '271 would be monodispersed and has the similar surface area as the claimed product, the product of the combined teaching would have similar value for the absolute value of triboelectrostatic charge to the specific surface area as the claimed product.

For the process claims, Inokuchi '495 does not specifically disclose the step of maintaining the silica particle for a time at a temperature greater than the melting point of silica and a silica concentration in the flame is more than 0.25 kg/Nm<sup>3</sup>.

In the instant specification, it is disclosed on page 11, lines 1-2 that when the “silica concentration is less than 0.25 kg/Nm<sup>3</sup>, the particle cannot be grown fully and the particle having the desired diameter is not obtained.” It is also disclosed on page 11, middle paragraph that the generated silica particle by flame hydrolysis is grown up by staying in the flame for the short time under high temperature more than melting point of silica. Since the process of Inokuchi '495 can produce silica particles having particle size up to 1 micron, the silica concentration in Inokuchi '495 must have been more than 0.25 kg/Nm<sup>3</sup>, and the temperature in the process of Inokuchi '495 must have been higher than the melting point of silica, otherwise such large particle size would not be obtained.

Art Unit: 1754

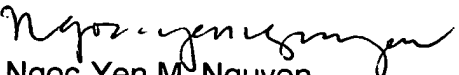
It would have been obvious to one of ordinary skill in the art at the time the invention was made to optimize the process condition of Inokuchi '495 in order to obtain a monodisperse silica product, as suggested by Suzuki '495 because monodisperse silica is a desired additive for electrostatic image developer.

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ngoc-Yen M. Nguyen whose telephone number is (571) 272-1356. The examiner is currently on Part time schedule.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mr. Stan Silverman can be reached on (571) 272-1358. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed (571) 272-1700.

  
Ngoc-Yen M. Nguyen  
Primary Examiner  
Art Unit 1754

nmn  
January 24, 2005